Bologna, Italy
27-30 August 2019

**Global Challenges
in Assistive Technology
Research, Policy & Practice**

The 15th International Conference
of the Association for the
Advancement of Assistive
Technology in Europe (AAATE)

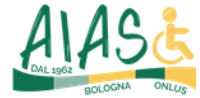# Conference programme

For updated versions: www.aaate2019.eu

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PRESENTATION

Dear colleagues,

It is a great pleasure to present the programme of the 15th international conference of the Association for the Advancement of Assistive Technology in Europe for your appreciation. The conference, taking place in Bologna (Italy) at the end of August 2019, covers as usual a wide variety of themes having to do with the relation between Technology and Disability. Beside the more traditional areas of Assistive Technology this includes Accessibility, Universal Design, Ambient Assisted Living, Smart environments and Internet of Things, Robotics, Technologies for independent living and self-management, Rehabilitation technology, Technology for Ageing, Augmentative and Alternative Communication, etc. It is a precise choice of the conference organisers, fully in line with the mission and positioning of AAATE as a European AT association of reference, not to specialise in any of those fields, but to keep this broad perspective, adopting the standpoint of those searching for effective assistive technology based solutions for their empowerment and for whom all solutions are open, as long as they work well. This approach makes the AAATE conference probably the most all-round AT conference in Europe and a biannual "must" for professionals supporting persons with disabilities and older adults. As a matter of fact, reading through the selected abstracts brought together in these Proceedings, the reader get a good picture of the broadness of the field and the wealth of competence represented by the authors.

We would like to thank the Programme Committee, in particular Lorenzo Desideri of AIAS Bologna, and the Scientific Committee Members for the work done in collecting, reviewing and selecting the abstracts here presented. They form the main scientific heritage of this conference, together with other reports that will be made from the educational sessions, the policy sessions and the product and prototype presentations. For organisational reasons it was not possible to include all that material in these proceedings.

Finally we would like to thank the authors that have chosen the AAATE conference to present their work. We have appreciated your effort and congratulate you with the high level of the work presented.

The conference chairs

Evert-Jan Hoogerwerf (AIAS Bologna onlus)

Rabih Chattat (Alma Mater Studiorum University of Bologna)

Luc de Witte (AAATE)

PRE-CONFERENCE EVENTS (27/08/2019)

Virtual/Augmented Reality and Social Robotics in the Assistive Technology domain

A "hands-on" workshop organised by AIAS Bologna onlus and EON Reality Italy

27/08/2019, 9.00 – 14.00

Worklife Innovation Hub, Via del Lavoro 47, Casalecchio di Reno BO

During the workshop participants will have the opportunity to learn more about innovative human machine interaction techniques and explore together possible application areas related to disability and ageing.

The workshop will focus on Virtual and Augmented Reality on the one hand and Social Robotics on the other hand.

The workshop will be delivered in the VR Innovation Academy inside the Interactive Digital Center of EON Reality Italy) and will included demonstrations, hands-on development exercises, small group work, plenary discussions.

Light lunch provided

Registration required.

For more programme details and logistics http://aaate2019.eu/pre-conference-events/:

Visit to "Centro Protesi INAIL"

27/08/2019 10.00 – 13.30

Via Rabuina 14, Vigorso, Budrio BO

The Centro Protesi Inail, founded in 1961, is an ISO 9001-2015 certified company and is an articulated and complex structure in which the most up-to-date knowledge in the field of technical orthopedics is applied and where the functional and psycho-social framework of the injured is rebuilt for complete reintegration into the world of work, in the family and more widely in society. Light lunch (offered by INAIL) provided.

Registration required

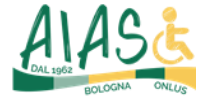For more programme details and logistics http://aaate2019.eu/pre-conference-events/:

General Assembly of the International Alliance of Assistive Technology Organizations (IAATO)

The meeting is open to members and potential members

27/08/2019, 10.00-11.45

Main conference venue: Via Beniamino Andreatta 8, Bologna

Room Q

The International Alliance of Assistive Technology Organisations is a global alliance of **AT focussed non-for-profit membership organisations**. During the meeting the members will discuss the roadmap for growth and development of the Alliance and its updated strategic work plan.

Participation (free of charge) is open to representatives of organisations interested in becoming members or observers. See call for collaborations downloadable from the conference website.

Workshop AAATE/SIG "Standardisation" (S13N)

How to find and contribute to standards

Standards as a means to support AT/Accessibility/Inclusion

27/08/2019, 12.15-14.00

Main conference venue: Via Beniamino Andreatta 8, Bologna

Room Q

The SIG on Standardisation of AAATE aims at overcoming the situation and establishing a platform of AT/Accessibility/Inclusion experts willing to contribute by identifying relevant standards or standardising activities, commenting/recommending amendments and submitting them to the relevant committees/authorities in due time in the course of the standardisation process. The SIG also aims at raising awareness for standardisation in and beyond the field.

The meeting is free of charge and welcomes all interested participants.

Unlocking human potential

Increasing our efforts to boost assistive technology-enabled inclusive and sustainable development at global and local level.

The role of international organisations, national, regional and local authorities, civil society, academia and industry.

27/08/2019, 15.00-18.30

Archiginnasio – Stabat Mater Room, Piazza Galvani 1, Bologna

This high-level meeting will bring together representatives of international organisations, among which the World Health Organisation, the European Commission, the European Disability Forum, and of national and regional authorities and civil society organisations. The meeting is organised by AAATE and AIAS Bologna onlus, in collaboration with the Alma Mater Studiorum University of Bologna.

Programme

14.30   Registration
        Host of the day: Evert-Jan Hoogerwerf (SG AAATE/AIAS Bologna onlus)
15.00   Official greetings
        Matteo Lepore (Councillor City of Bologna)
        Mirko Degli Esposti (Deputy Rector Alma Mater Studiorum, University of Bologna)
15.15   Introductory speeches by:
        -Wei Zhang (WHO)
        -Inmaculada Placencia-Porrero (The European Commission)
        -Vincenzo Zoccano (Undersecretary of State at the Presidency of the Council of Ministers
        with mandate to Disability and Family - Italy)
        -Luc de Witte (President of AAATE)
16.00   **Session 1: Implementing a rights-based approach in Assistive Technology**
        Chair: Katerina Mavrou (European University of Cyprus)
        Keynote by Giampiero Griffo (The Italian National observatory on the conditions of persons
                              with disabilities)
        Panel session with:
        -Alejandro Moledo (European Disability Forum)
        -Luk Zelderloo (European Association of Service Providers to Persons with Disabilities)
        -Malcolm MacLachlan (Assisted Living and Learning Institute, Maynooth University)
        -Tara Rudnicki (Assistive Technology Industry Association)
        -Egidio Sosio (Disability manager of the City of Bologna)
        -Rabih Chattat (Alma Mater Studiorum, University of Bologna)
17.00   Coffee break
17.20   **Session 2: Creating conditions for AT to work**
        Chair: Serenella Besio (University of Bergamo)
        Keynote by Massimo Guerreschi (GLIC, the Italian association of AT centres)
        Panel session with:
        -Cathy Holloway (Global Disability Innovation Hub)
        -Renzo Andrich (the EASTIN network)
        -Silvana Contepomi (Argentinian Assistive Technology Association)
        -Roger O. Smith (Rehabilitation Engineering and Assistive Technology Society of North
America)
        -Filippo Borghi (AssoAusili)
        -Maria Caterina Manca (Commission for Health and Welfare, City of Bologna)
        -Massimiliano Malavasi (The Regional Centre for Assistive Technology of Emilia Romagna)
18.20   Presentation of the International Alliance of Assistive Technology Organisations &
        Presentation of the Bologna Declaration
18.30   Closure

"Registration is requested. Translation between English and Italian is provided, as well as captioning
in both languages."

CONFERENCE DAY 1 (28/08/2019)

All events are in the main conference venue in Via Beniamino Andreatta 8, Bologna, unless indicated differently

08.00-09.00   Registration

09.00-11.00   Opening ceremony & Plenary session

Room B

Official opening with Luc de Witte (AAATE), Rabih Chattat (University of Bologna), Councilor Marco Lombardo (City of Bologna), Imaculada Placencia-Porrero (The European Commission), Wei Zhang (WHO), Lorenzo Desideri (AIAS Bologna) & Evert-Jan Hoogerwerf (AIAS Bologna/AAATE). Keynote speech: Prof. Malcolm MacLachlan (Maynooth University, Ireland)

AAATE Diamond Award ceremony

11.00-11.30   Coffee break

11.30-13.00   Parallel session 1

Room B – Scientific programme

EYE GAZE TECHNOLOGY

Session Chair:
Helena Hemmingsson (Stockholm University, Sweden)

11.30 – Helena Hemmingsson (Stockholm University, Sweden)
Eye gaze controlled computer: a total survey in Swedish context

11.45 – Eva Holmqvist (Dart, Sahlgrenska University Hospital, Sweden)
Gaze-controlled communication technology for children with severe multiple disabilities: Parents and professionals' perception of gains, obstacles, and prerequisites

12.00 – Sandra Masayko (Easterseals Southeastern PA, United States)
Child and Environmental Factors Influencing Selection of Eye Gaze Technology for Trials & Adoption for Young Children: An Interprofessional Pilot Study
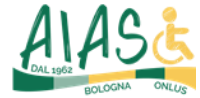
12.15 – Maria Borgestig (Örebro University, Sweden)
Eye gaze technology's effect on participation and functional independence

12.30 – Deepika Gopalarao (Al Noor Training Centre for Persons with Disabilities, UAE)
Facilitating Participation in Routines and Activities for Individuals with Complex Challenges by Use of Eye Gaze Intervention in a Transdisciplinary Special Education Setting

12.45 – Francesca Schettini (Fondazione Santa Lucia IRCCS - SARA-t, Italy)
Combining P300-based Brain Computer Interface with an eye-tracking system to improve communication efficacy for people with ocular motor impairment

Room C – Scientific programme

AT & AGING

Session chair:
Maite Ferrando (AAATE)

11.30 – Jeffrey Jutai (AGE-WELL WP8 ETHICS-TECH, Canada)
Reducing health disparities in older people through assistive technology

11.45 - Alison Orrell (Bangor University, UK)
Assistive social care technologies for older people: let's talk more about this

12.00 – Tone Oderud (SINTEF, Norway)
Experiences with the use of welfare technologies for elderly persons

12.15 – Misato Nihei (The University of Tokyo, Japan)
Assistive Products Use among Oldest-Old People in Japan: Differences in Personal Attribute and Living Situation

12.30 – Alexandra Saad (University of Haifa, Israel)
Hand Function in skills of modern day among Elderly Individuals Room D – Scientific programme

12.45 – Claudia Porfirione (University of Genoa, Italy)
LivingHub: an interdisciplinary approach to designing an innovative AT laboratory for ageing population by using simulation-based education

Room D – Scientific programme

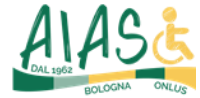## AI & INCLUSION

Session chair:
EA Draffan (University of Southampton, UK)

11.30 – EA Draffan (University of Southampton, UK)
AI and Inclusion: A Roadmap for Research and Development

11.45 – Stephen Potter (The University of Sheffield, UK)
The Four Idols of AI for Health and Wellbeing

12.00 – Gottfried Zimmermann (Stuttgart Media University, Germany)
AI Bias in Gender Recognition of Face Images – Study on the Impact of the IBM AI Fairness 360 Toolkit

12.15 – John Gilligan (Technological University of Dublin City, Ireland)
Machine Learning: Design by Exclusion or Exclusion by Design?

12.30 – Maria K Wolters (School of Informatics, University of Edinburgh, UK)
Accessibility and Stigma: Designing for Users with Invisible Disabilities

12.45 – E.A. Draffan (University of Southampton, UK)
AI and AAC: Linking Open Symbol sets - A global approach

Room E – Scientific programme

CO-CREATION/USER EXPERIENCE

Session chair:
Ramon Daniels (Zuyd University of Applied Sciences, the Netherlands)

11.30 – Juan Pavón (Universidad Complutense Madrid, Spain)
Co-creation of assistive solutions

11.45 – Aejaz Zahid (Assistronix, CATCH, The University of Sheffield, Barnsley Hospital, UK)
Hackcessible: Towards a new model for stimulating user-led innovation in Assistive Technology

12.00 – Sarah Gavra Boland (Saint John of God Community Servies clg, Liffey Services, Ireland)
Study on how health care service providers together with industry partners can co-design accessible assistive technology for individuals with intellectual disability.

12.15 – Bernard Timmins (Technological University of Dublin, Ireland)
Assistive technology users at the coal face of confronting intrinsic design issues in their assistive technology

12.30 – Jan Thomas Meyer (ETH Zurich, Switzerland)
Enabling User-centered Design and Evaluation to Increase Acceptance of Wearable Robotic Assistive Technologies

12.45 – Vivienne Conway (Web Key IT Pty Ltd, Australia)
Benefits Beyond Experience

ACCESSIBLE STEM

Session chair:
Barbara Leporini (ISTI-CNR, Italy)

11.30 – Tomas Murillo Morales (Johannes Kepler University, Austria)
Natural Language Processing for Non-visual Access to Diagrams

11.45 – Barbara Leporini (ISTI-CNR, Italy)
Technology Support for Inclusive STEM Laboratories: State-of-the-Art and Open Challenges

12.00 – Katsuhito Yamaguchi (Nihon University, Japan)
InftyReader Lite: Converting e-Born PDF into Various Accessible Formats

12.15 – Bamidele Chika Agbakuribe (University Of Abuja, Nigeria)
An Investigation into Pedagogical and Opportunity Confines in STEM Education Of Visually-Impaired Nigerians: Why Disabled People Must be Involved

12.30 – Lykke Brogaard Bertel (Aalborg University, Denmark)
Robot-supported inclusive education: a case study on the kubo robot in early stem education

12.45 – Francesca Pulina (CNR-ISTI, HIIS Laboratory, Italy)
Automatic support for web accessibility evaluation

11.30 – 13.00 Room L – Educational session

Measuring outcomes of AT service delivery and interventions

In this workshop, we will explore the use of outcome measurement in service delivery through discussions and case studies. The workshop will begin with an overview of "outcomes" as it applies to health and disability services. From there, we will discuss the development and psychometric evaluation of measurement instruments, and how published data can be used to select and implement appropriate approaches to measuring outcomes. We will have opportunities to explore various stakeholder perspectives on outcomes measurement, such as those of interest to AT users, practitioners, suppliers, manufacturers, and funders. We will discuss various case studies and identify possible resources available for information and support.

Speakers:
Desleigh De Jonge (The University of Queensland, Australia)
Emma Friesen (Raz Design Inc, Toronto, Canada)

11.30 – 13.00 Room M – Policy session

Quality in AT Research: Re-Evaluating Use of the Medical Model

Traditionally, Assistive Technology (AT) research has been approached from a medical model – with the application of AT as an intervention akin to medication prescription. Research quality frameworks

in evidence-based medicine prioritize RCTs, single 'active ingredient' interventions, and outcomes which are sensitive to change and easily measured. AT research is challenged by this model due to heterogeneity of populations, need for individualized approaches, and application of a social model of disability. AT interventions often include multiple 'active ingredients', and complex outcomes (e.g., community participation). This discussion focuses on re-framing our approach to research design and quality in AT.

Chair:
Emma M. Smith (University of British Columbia, Canada; ALL Institute, Maynooth University, Ireland)

Speakers:
Krista L. Best (Researcher, Centre for Interdisciplinary Research in Rehabilitation and Social Integration; Adjunct Professor, Universite Laval, Canada)

Francois Routhier (Researcher, Centre for Interdisciplinary Research in Rehabilitation and Social Integration; Associate Professor, Universite Laval, Canada)

Mac MacLachlan (Professor of Psychology and Social Inclusion, Director, Assisting Learning and Living (ALL), Maynooth University, Ireland, Research and Innovation Lead, WHO GATE Initiative)

Roger Smith (Professor, Director, Rehabilitation Research Design and Disability Center, University of Wisconsin, Milwaukee)

Katerina Mavrou (Associate professor at the European University of Cyprus and President elect of AAATE)

13.00-14.30   Lunch

14.30-16.00   **Parallel session 2**

<mark>**Room B – Scientific programme**</mark>

CARE ROBOTICS EUROPE-ASIA

Session Chair:
Luc de Witte (University of Sheffield, UK)

14.30 – Stephen Potter (The University of Sheffield, UK)
Care Robotics Development: A European Perspective

14.45 – Won-Kyung Song (National Rehabilitation Center, South Korea)
Planning care robot project in Korea based on user centered approach and its future direction

15.00 – Myung Joon Lim (National Rehabilitation Research Institute, South Korea)
What should be considered when developing care robots according to their types?

15.15 – Sandra Bedaf (Zuyd University of Applied Sciences, the Netherlands)

Cultural differences in perceptions of care robots within Europe

15.30 – Jeungkun Kim (Kangnam University, South Korea)
The Influence of Socio-Economic Phenomenon on Eldercare-Robotic Solutions in Korea

Room C – Scientific programme

AT & DEMENTIA

Session Chair:
Natasha Layton (ARATA, Australia)

14.30 – Ryanne Lemmens (PXL University College of Applied Sciences and Arts, Belgium)
Stay@home with dementia: from needs assessment to assistive technology

14.45 – Renee van den Heuvel (Zuyd University of Applied Sciences, the Netherlands)
CRDL – interactive technology eliciting engagement in elderly people with dementia

15.00 – Mabel Giraldo (University of Bergamo, Italy)
Assistive technologies for elderly with intellectual disabilities. A preliminary systematic review for future research implementation

15.15 – Anne-mie Sponselee (Fontys University of Applied Sciences, the Netherlands)
Virtual garden for people with dementia

15.30 – Claude Vincent (Université Laval, Canada)
Dementia dogs and their impact on community-dwelling persons with mild to moderate dementia and their family caregivers

15.45 – François Routhier (Center for interdisciplinary research in rehabilitation and social integration, Canada)
Family caregivers' experience of care and use of assistive technologies

Room D – Scientific programme

AI & INCLUSION

Session Chair:
EA Draffan (University of Southampton, UK)

14.30 – Mamoru Iwabuchi (Waseda University, Japan)
IoT-Based Observation Technology for Assessment of Motor and Cognitive Conditions in Children with Severe Multiple Disabilities

14.45 – Paolo Ciampolini (University of Parma, Italy)

IoT-based continuous lifestyle monitoring: the Noah concept

15.00 – Takenobu Inoue (National Rehabilitation Center for Persons with Disabilities, Japan)
Field-based innovation methodology and its implementation on development of an information support robot system for the elderly

15.15 – Darcy Ummels (Zuyd University of applied science, the Netherlands)
Patients' experiences with commercially available activity trackers embedded in physiotherapy treatment: A qualitative study

15.30 – Tourkiah Alessa (Sheffield university / King Saud University, UK)
Smartphones Apps to Support the Self-Management of Hypertension: identification of the most suitable apps

15.45 – Gianni Viardo Vercelli (Università degli Studi di Genova, Italy)
Developing an Intelligent Virtual Coach for Boccia: Design of a Virtual Boccia Simulator

Room E – Scientific programme

SUPPORTING STUDENTS

Session Chairs:
Marcia Scherer (Institute for Matching Person & Technology, Inc., USA)
Susan Zapf (Rocky Mountain University of Health Professions, USA)

14.30 – Gerald Craddock (Centre for Excellence in Universal Design, Ireland)
Universal Design as a catalyst for transformation across the Educational Continuum

14.45 – Trish MacKeogh (ASSISTID, Ireland)
Developing the Irish Matching Person with Technology (IMPT) to a multimedia format through a Universal Design process.

15.00 – Annalu Waller (University of Dundee, UK)
Digital Assistive Technology Education and Training

15.15 – Thais Pousada (University of A Coruña, Spain)
Assistive Technology in the University, Is there still a person-technology match?

15.30 – Susan Zapf (Rocky Mountain University of Health Professions, USA)
Outcome Effectiveness of Assistive Technology in Supporting Students' Mastery of Educational Goals

15.45 – Stefano Federici (University of Perugia, Italy)
Standardizing the procedures, improving the listening to the needs of the individual user

MOBILITY/1

Session Chair:
Anna-Liisa Salminen (The Social Insurance Institution of Finland)

14.30 – Alireza Darvishy (Zurich University of Applied Sciences, Switzerland)
Travelers with disabilities: Challenges and assistive technologies

14.45 – Laura Burzagli (IFAC CNR, Italy)
People moving in a Smart City

15.00 – Valdis Krumins (Advanced Manufacturing Research Centre, University of Sheffield, UK)
An affordable concept to produce mobility devices in low resource settings

15.15 – Tobias Ableitner (Stuttgart Media University, Germany)
User acceptance of Augmented Reality glasses for hand exoskeleton control

15.30 – Shunsuke Kurokawa (National Rehabilitation Center for Persons with Disabilities / Tokyo Metropolitan University, Japan)
Accuracy evaluation of an add-on acquisition system of operation log with inertial measurement units for a mobility scooter

14.30 – 16.00 Room M – Policy session 2

EU Accessibility legislation and implementation

Policy development and legislation has been the initiating and driving force for the social change towards inclusion. They support and facilitate (digital) Accessibility and Assisitve Technology awareness, R&D, implementation, training and use by all stakeholders. This session will outline and discuss the state of the art and ongoing activities in policy, legislation and implementation at European level as a globally harmonised and major driving force for national/local developments. The session will call for active involvement of all stakeholders to take up the opportunities for support and cooperation to strengthen a more inclusive society.

Chair:
Klaus Miesenberger (University of Linz, Austria)

Speakers
Alejandro Moledo (European Disability Forum)
Inmaculada Placencia-Porrero (European Commission)
Gudrun Stock (The European Commission)
Raising the bar on Digital Accessibility across the EU - Policy measures and research funding."

16.00-16.30   Tea break

16.30-17.30   Parallel session 3

AT & IOT

Session Chair:
Massimiliano Malavasi (AIAS Bologna)

16.30 – Ian Radcliffe (Imperial College London, UK)
Universal controller: An open source software development promoting connectivity with assistive technology devices and the internet of things

16.45 – Angelo Rega (Neapolisanit Rehanilitation Center, Italy)
Implementing an IoT based task analysis system to promote autonomy in daily hygiene of adults with autism in a residential house

17.00 – Tahira Resalat (The University of Sheffield, UK)
The use of Internet of Things (IoT) and Assistive Technology (AT) in developing 'Smart Homes' for health and social care in the UK

17.15 – Polyxeni Kaimara (Ionian University, Greece)
Waking-up in the morning: A gamified simulation in the context of learning activities of daily living

MOOCS & OERS

Session Chair:
Gottfried Zimmermann (Stuttgart Media University, Germany)

16.30 – Gottfried Zimmermann (Stuttgart Media University, Germany)
Designing a MOOC for "Training the Trainers"

16.45 – John Gilligan (Technological University of Dublin City, Ireland)
Using MOOCAP OERs to support Universal Design and Accessibility initiatives in Computer Science programmes in Ireland's first Technological University

17.00 – Weiqin Chen (Oslo Metropolitan University, Norway)
Harnessing MOOCs and OERs in teaching digital accessibility -- experiences with a flipped classroom approach

17.15 – E.A. Draffan (University of Southampton, UK)
Exploring the impact of the Digital Accessibility MOOC

Room D – Scientific programme

COMMUNICATION DISORDERS

Session Chair:
Anne Kanto-Ronkanen (Ministry of Social Affairs and Health)

16.30 – Davide Mulfari (University of Pisa, Italy)
A machine learning assistive solution for users with dysarthria

16.45 – Katsutoshi Oe (Daiichi Institute of Technology, Japan)
Development of controllable electrolarynx controlled by neck myoelectric signal

17.00 – Margret Buchholz (Dart, Sahlgrenska University Hospital, Göteborg University, Sweden)
Let's stay in touch! Remote communication for people with communicative and cognitive disabilities

17.15 - Margret Buchholz (Dart, Sahlgrenska University Hospital, Göteborg University, Sweden)
How do we provide necessary support to enable remote communication for people with communication difficulties?

Room E – Scientific programme

ASSISTIVE ROBOTICS

Session Chair:
Lorenzo Desideri (AIAS Bologna)

16.30 – Masataka Ootani (Osaka Institute of Technology, Japan)
A Walking Assist Robot Which makes the Pelvis Move More Easily and Assists in Walking

16.45 – Chiara Lepore (AIAS Bologna, Italy)
VIVO-Rehab: Coupling humanoid robots with motion sensing devices to support upper limb function assessment of children with Spinal Muscular Atrophy (SMA)

17.00 – Lisa Cesario (AIAS Bologna, Italy)
Promoting the use of social robots to engage students with special education needs (SEN): development of a teacher-friendly app

17.15 - Yukio Honda (Osaka Institute of Technology, Japan)
Using Data from a telephone call beginning with "How Are You?

MOBILITY/2

Session Chair:
Renzo Andrich (EASTIN Network)

16.30 – Sara Arlati (Institute of Intelligent Industrial Technologies and Systems for Advanced Manufacturing - STIIMA-CNR, Italy)
A Semantic Decision Support System to foster Return to Work of Novice Wheelchair Users

16.45 – Kirstine Gøeg (Rosenbeck Informatics, Denmark)
Wheelchair users' experiences with and need of activity trackers

17.00 - Santosh Kumar Maurya (Tokyo Institute of Technology, Japan)
Addressing communication issue among caregivers and wheelchair users: identifying design metrics and defining needs

17.15 - François Routhier (CIRRIS, Canada)
Usability assessment of a navigation tool for manual wheelchair users in urban areas

16.30 - Room L – Educational session

Assessing usability of mobile (rolling) shower chairs

Mobile (rolling) shower chairs are used by adults with spinal cord injury (SCI) for activities including showering, intimate hygiene, and bowel management. Workshop participants will explore the use, usability, and assessment of mobile (rolling) shower chairs, and review recent research on the topic by the presenter. Participants will then discuss three validated questionnaires that can be used to assess usability: the electronic Mobile shower commode ASsessment Tool (eMAST) 1.0, the devices subscale of the Quebec User Evaluation of Satisfaction with assistive Technology Version 2 (QUEST 2.0), and the modified System Usability Scale (SUS).

Speaker:
Emma Friesen (Raz Design Inc.)

16.30 - Room M – Policy session

Global challenges in AT education and training

Key for successful outcomes in AT is the presence of competence among the stakeholders involved, first among those that have to advice on the adoption of specific technologies. Although there are examples of certification programmes or accredited training courses across the globe, there is no overall model or global approach to AT education and training. The International Alliance of AT Organisations (IAATO) will discuss the pro's and con's of having such a model and how it should or could look like.

Speakers

Hoogerwerf, E.J.(Co-Chair of the IAATO)

*Round table discussion with invited experts moderated by **Roger O. Smith**: Co-chair of the IAATO*

Gift, N. *(India)*

Contepomi, S. *(Argentina)*

Richard, L. *(Canada)*

Layton, N. *(Australia)*

17.30 - Welcome cocktail

19.00 – 20.30 Guided City tour

CONFERENCE DAY 2 (29/08/2019)

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09.00-10.30   Parallel session 4

POLICY

Session Chair:
Evert-Jan Hoogerwerf (AIAS Bologna, Italy)

09.00 - Aniyamuzaala James Rwampigi (University College Dublin, Ireland)
Assistive Technology, the International Classification of Functioning, Disability and Health, and the Convention on the Rights of Persons with Disabilities

09.15 - Natasha Altin (University of Toronto, Canada)
Political drivers in harnessing the power of the assistive technology: a multiple streams framework analysis

09.30 - Natasha Altin (University of Toronto, Canada)
Re-thinking the advancement of the assistive technology system from the human rights perspective.

09.45 – Shweta Sharma (Indian Council of Medical Research HQ New Delhi, India)
"Equipping, empowering, enabling": center-staging Assistive Technologies in disability and rehabilitation policy discourse in India

10.00 - Nóra Menich (Eötvös Loránd University Faculty of Social Sciences, Doctoral School of Sociology, Hungary)
Access to assistive technology in Hungary – what is (not) done about it?

10.15 - Valentina Fiordelmondo (AIAS Bologna, Italy)
Examining Gender, Disability and Technology: A survey study from the RISEWISE project

Room C – Scientific programme

AT EDUCATION/AT IN EDUCATION

Session Chair:

Katerina Mavrou (European University Cyprus)

09.00 – Veselin Medenica (College of Social Work, Serbia)
Recommendations for using assistive technologies for inclusive media education in kindergartens

09.15 - Betty Shrieber (Kibbutzim College of Education Technology and the Arts, Israel)
The impact of using learning apps on executive functions: task initiation and persistence, of students with attention and learning disorder

09.30 - Avigail Provisor & Betty Shrieber (Kibbutiz College, Israel)
The Contribution of iMovie Editing to Improve Storytelling Skills of a Student with Deafness & ADHD

09.45 - Frédéric Vella (IRIT/CNRS UMR 5505, France)
Observation of HandiMathKey appropriation phase by disabled students in a middle school

10.00 - Christopher Norrie (University of Dundee, UK)
Exploring the Role of Assistive Technologist in a Special Education (SE) Setting

10.15 - Nelson Rocha (University of Aveiro, Portugal)
A Special Needs Course in undergraduate health professions: an evaluation using mixed methods

Room D – Scientific programme

PATHOLOGICAL SPEECH PROCESSING

Session Chair:
Heidi Christensen (University of Sheffield, UK)

09.00 - Phil Green (University Sheffield, UK)
Global Challenges in Pathological Speech Technology

09.15 - Viviana Mendoza Ramos (University Hospital of Antwerp, Belgium)
Acoustic features to support the perceptual evaluation of accent production in dysarthric speech

09.30 - Christopher Oates (audEERING GmbH, Germany)
Enabling Early Detection and Continuous Monitoring of Parkinson's Disease

09.45 - Juan Camilo Vasquez-Correa (Friedrich Alexander University, Erlangen-Nuremberg, Germany)
Apkinson: a Mobile Solution for Multimodal Assessment of Patients with Parkinson's Disease

10.00 - Shalini Parekh (University of Gent, Belgium)
Generating phonological feedback for evidence-based speech therapy

10.15 - Mark Hawley (University of Sheffield, UK)
From VIVOCA to VocaTempo: development and evaluation of a voice-input voice-output communication aid app

Room E – Scientific programme

AT & INTELLECTUAL DISABILITY

Session Chair:
Helena Hemmingsson (Stockholm University, Sweden)

09.00 - Jesus Zegarra Flores (Altran Technology, France)
"ADAPEI transport" a learning and navigation app for young adults with intellectual disabilities to improve their autonomy to take public transport

09.15 – Marian McDonnell (Institute of Art Design and Technology, Ireland)
Creating appropriate instructional applications for users with intellectual disability

09.30 - Elli Kafritsa (Margarita VTC, Greece)
Assessment of SlideWiki OpenCourseWare Platform by individuals with mild or moderate intellectual disability

09.45 - Sarah Gavra Boland (Saint John of God Community Servies clg, Liffey Services, Ireland)
Can Accessible Technology help Person Directed Planning? Exploring the role of an ICT solution to evidence value in service delivery for people with intellectual disabilities.

10.00 - Julia Louw (National University of Ireland, Galway)
Evaluating a Social Inclusion Intervention with Support of a Mobile Application among Young Adults with Intellectual Disabilities

10.15 - Erika Jókai (Óbuda University, Hungary)
Using high fidelity work simulator for vocational orientation, skill assessment and development of young adults with disabilities

Room F – Scientific programme

AT DELIVERY: CROSS-CULTURAL PERSPECTIVES

Session Chair:
Lorenzo Desideri (AIAS Bologna)

09.00 - Maurice Grinberg (ASSIST-Assitive Technologies, Bulgaria)
Barriers to Assistive Technology in Europe

09.15 - Anna-Liisa Salminen (The Social Insurance Institution of Finland)
Demanding assistive technology for study and work in Finland 2007–2018

09.30 – Kerstin Tönsing (University of Pretoria, South Africa)
Augmentative and alternative communication systems for multilingual contexts: a South African perspective

09.45 – Silvana Contepomi (AATA Argentine Assistive Technology Association)
Access to appropriate Assistive Technology in less-resourced settings: Argentina´s case

10.00 - Mehedi Hasan Khan (Kobe Gakuin University, Japan)
Availability and Awareness of Assistive Products in Bangladesh from the Perspective of Rehabilitation Professionals

10.15 – Natalia Zdaniuk (University of Toronto, Canada)
Assistive Technology Access: a global concern in the Canadian context – stakeholder perspectives on unmet needs, gaps in services, and ethical, social, and policy issues

9.00-10.30 - Room L – Educational session

UDL Needs to be a "Bottom-Up" Educational Process

Universal Design for Learning (UDL), a framework for curriculum development, was designed to provide teachers with tools and principles that reduce barriers to educational access. Implementation of UDL is often a "top down" process, characterized by administrative staff delivering content to teachers who then provide implementation in the classroom. This presentation describes why a "bottom-up" approach is a more effective model for implementation. The presenter will identify at least five research-based strategies of using Assistive Technology supporting a "bottom up" model designed to support classroom staff and improved fidelity of curricular design in classrooms characterized by varied educational needs.

Speakers:
Priscilla Danielson (Linguistic Solutions LLC)
Ole Danielson (Linguistic Solutions LLC)

9.00-10.30 - Room P – Policy session

Global challenges on Assistive Technology Transfer: from basic research towards the end user.

Technology Transfer (TT) is still a challenging task when it is confronted with Assistive Technology (AT). Due to its peculiarity, Assistive Technology Transfer (ATT) requires a coordinated system in order to provide innovative solutions to the end user. However, different challenges emerge within this process, influencing the roles of involved stakeholders. Universities, industry and the government, therefore, should be constituents of a holistic process which will foster innovation from basic prototypes until the final product, reaching the end user.

Chair:
Osorio Neto (RMIT – Royal Melbourne Institute of Technology/Ministry of Science, Technology, Innovations and Communications from Brazil)

Speakers:
Luca Fanucci (Director of the National Lab on Assistive Technologies of the CINI consortium)

Pasquale Fedele (CEO and founder of LiquidWeb)

David Banes (Director of David Banes Access and Inclusion Services and was formerly CEO, at Mada the Qatar Assistive Technology and Accessibility Center)

10.30-11.00   Coffee break

11.00-13.00   Parallel session 5

<mark>**Room B – Scientific programme**</mark>

DIGITAL HEALTH – THEMATIC SESSION SUPPORTED BY PROACT

Session Chair:
Peter Cudd (University of Sheffield, UK)

11.00 - Malcolm Fisk (De Montfort University, UK)
Telehealth Product and Service Design for an Ageing Population

11.15 - Fabio Ciravegna (University of Sheffield, UK)
A digital system supporting effective remote multi-agency home visits

11.30 - John Dinsmore (Trinity College Dublin, Ireland)
ProACT: Person-centred digital integrated care for adults aged 65 years and over, living with multimorbidity.

11.45 - Arianna Gherardini (AIAS Bologna onlus, Italy)
Advancing home-based integrated care for older adults with multiple chronic conditions: preliminary results from the Italian ProACT trial

12.00 – Natalie Jones (Sheffield Teaching Hospitals NHS FT, UK)
Opportunities for multimedia tools to improve services

12.15 - Sarah Willard (Zuyd University of Applied Sciences, The Netherlands)
Why do Dutch older adults use online community care platforms, or not?

12.30 - Siobhan Long (Enable Ireland)
A Systems Approach to the implementation of a national model of Assistive Technology Service Delivery: Challenges and Opportunities Designing for the future: a Systemically Viable Assistive Technology Service for Disabled and Older People in Ireland

INCLUSIVE EDUCATION ENVIRONMENTS

Session Chairs:
Katerina Mavrou (European University of Cyprus & ENTELIS Network)
Silvio Pagliara (Ausilioteca Mediterranea & ENTELIS Network)

11.00 Klaus Miesenberger (Institut Integriert Studieren, JKU, Austria)
"Nothing about Us without Us": Next Level

11.15 - Pawan Kumar Patel (Indian Institute of Technology, Kanpur, India)
Accessibility evaluation of computer-based tests

11.30 - Laura Wuttke (TU Dortmund University, Germany)
LernBAR [Learning based on Augmented Reality] – An inclusive Training Concept for Home Economics

11.45 - Silvia Baldiris (Universidad Internacional de la Rioja, Colombia)
Meta-analysis on the impact of augmented reality on the learning gains of students with special needs

12.00 - Katerina Mavrou (European University Cyprus)
Augmenting Reading through technology: The Living Book Project

12.15 - Maria Loizou (University of Lancaster)
Flipped Classroom for All in primary education: Using technology for differentiation and inclusion

12.30 - Ivan Traina (National University of Ireland Galway (NUIG), Ireland)
Project E-IDEAS: empowerment of youth with Intellectual Disabilities through an individualized transition program including AT for acquiring employment skills

Room D – Scientific programme

GOOD PRACTICES IN AT DELIVERY

Session Chairs:
Renzo Andrich (EASTIN Network) &
Giulia Oggero (World Health Organization)

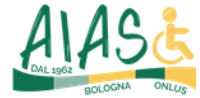11.00 – Takashi Watanabe (Nihon Fukushi University, Japan)
Proposal for Collaborative Assistive Technology Provision with Digital Fabrication

11.15 - Claudia Salatino (Fondazione Don Carlo Gnocchi ONLUS, Italy)
Assistive technology service delivery in rehabilitation context

11.30 - Hille Maas (Eesti Töötukassa, Estonia)
ICF and ISO 9999 based evaluation of assistive technology effectiveness and electronic profiles

11.45 - Desleigh de Jonge (The University of Queensland, Australia)
Exploring smart technologies: the value of tailored sessions

12.00 – Jacinta Borilovic (University of Sydney, Australia)
What are they doing and what are they measuring? A scoping review on the technological interventions and ageing in place outcomes allied health professionals use.

12.15 - Gift Norman (Bangalore Baptist Hospital, India)
Assistive Technology Provision in India; challenges and solutions

12.30 - Lucia Pigini (Fondazione Don Carlo Gnocchi ONLUS, Italy)
Assessing the outcome of individual assistive technology interventions

12.45 - Uta Roentgen (Zuyd University of Applied Sciences, the Netherlands)
Assistive Technology Service Delivery Models in the Netherlands

Room E – Scientific programme

INDOOR/OUTDOOR MOBILITY

Session Chair:
Silvia Mirri (University of Bologna, Italy)

11.00 - Mostafa Elgendy (Benha University, Egypt)
Indoor Navigation for People with Visual Impairment

11.15 - Cecilia Pettersson (Örebro University, Sweden)
Understanding mobility device users' experiences of physical inaccessibility and discrimination: a qualitative study

11.30 - Sara Comai (Politecnico di Milano, Italy)
MEP CROWD: Improving Data Quality of Crowd-based Accessibility Maps

11.45 - Silvia Mirri (University of Bologna, Italy)
On Enhancing Campus Accessibility: accessible digital signage, wayfinding and navigation

12.00 - Silvia Mirri (University of Bologna, Italy)
Making tourism services accessible to visually impaired users through a mobile app

12.15 - Lele Xi (The University of Tokyo, Japan)

Shared Control System of Electric Wheelchair for Persons with Severe Disabilities using Reinforcement Learning Method

12.30 - Takao Yanagihara (Kindai University, Japan)
The Effect of Footway Crossfall Gradient on one arm and leg drive wheelchairs

<mark>**Room F – Scientific programme**</mark>

ROBOTICS, VIRTUAL WORLDS & WHEELCHAIRS

Session Chairs:
Eleni Hatzidimitriadou (Canterbury Christ Church University, UK) &
Konstantinos Sirlantzis (University of Kent, UK)

11.00 – Nicolas Ragot (ESIGELEC – IRSEEM, France)
ADAPT: an EU multidisciplinary project in robotics rehabilitation for empowering people with disabilities

11.15 - Paul Oprea (University of Kent, UK)
Artificial intelligence for safe assisted driving based on user head movements in robotic wheelchairs

11.30 – Sara Arlati (Institute of Intelligent Industrial Technologies and Systems for Advanced Manufacturing - STIIMA-CNR, Italy)
A Simulator to Promote the Return to Work of Wheelchair Users

11.45 - Eleni Hatzidimitriadou (Canterbury Christ Church University, UK)
A Literature Review of the Challenges Encountered in the Adoption of Assistive Technology (AT) and Training of Healthcare Professionals

12.00 - Claire Parkin (Canterbury Christ Church University, UK)
A Survey of Assistive Technology Knowledge and Experiences of Healthcare Professionals in the UK and France: challenges and opportunities for workforce development

12.15 - Maria Stella Stein (Canterbury Christ Church University, UK)
Training Needs and Development of Online AT Training for Healthcare Professionals in UK and France

12.30 - Elhassan Mohamed (University of Kent, UK)
Integrating ride dynamics measurements and user comfort assessment to smart robotic wheelchairs

12.45 - Rania Kolaghassi (University of Kent, UK)
A smart posture monitoring and correction system for wheelchair users

USER PARTICIPATION IN SW DEVELOPMENT

Session Chairs:
Christian Bühler (TU Dortmund University & FTB der ESV, Germany)
Ingo Bosse (TU Dortmund, Germany)
Susanne Dirks (TU Dortmund, Germany)

11.00 Susanne Dirks (Technical University Dortmund, Germany)
Participation of Users with Disabilities in Software Development Projects

11.15 – Marlen Marzini (Heidelberg University of Education, Germany)
Assistive Technology for People with Profound Intellectual and Multiple Disabilities

11.30 - Fabio Sacchi (University of Bergamo, Italy)
Usability evaluation of mobile application for persons with disabilities: a review of available tools

11.45 - Cordula Edler (inbut, Germany)
E-Inclusion of People with Cognitive Disabilities Inclusive Collaboration in Research and Development for Improved Cognitive Accessibility

12.00 – Helena Garcia Carrizosa (Open University, UK)
Arches Project – Validation of Technological Outcomes of Gaming Software based on a Participative Research Methodology

12.15- Simon Hayhoe (University of Bath, UK)
Participatory Methodology, Inclusive Control Systems and Inclusive Technical Capital Developed by Engineering Undergraduates and Teenagers from a Marginalised Community in Mexico

12.30 - Peter Cudd (University of Sheffield, UK)
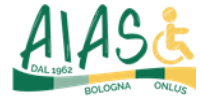**Starting on the innovation path for a fatigue management app for people with Multiple Sclerosis**

The Assessment, Development, and Implementation of Low and High Technology Augmentative and Alternative Communication (AAC) Systems

The session will target the development of basic knowledge and skill sets needed for the assessment, development, and implementation of low and high technology Augmentative and Alternative Communication (AAC) systems. The World Health Organization (WHO) cites approximately 1 billion people have a disability. AAC is one means to assist people with disabilities (i.e., acquired and developmental) in communication. AAC can be either low technology (e.g., picture books) or high technology (e.g., speech generating devices). The session will provide and discuss

free resources to assist individuals globally that require an alternate means to communicate their wants, feelings, and medical needs.

Speakers:
Lauren E. Vaughan (Heartspring, USA)
Linda Lawrence

13.00-14.30   Lunch

14.30-16.00   Parallel session 6

Room B – Scientific programme

SOCIAL ROBOTICS

Session Chairs:
Francesco Rea (Italian Institute of Technology)

Riccardo Magni (GLIC Network)

14.30 - Francesco Rea (Italian Institute of Technology, Italy)
HUMANOID ROBOTS: Advantages of social robots in the assistance of elders

14.45 - Yoshiyuki Takahashi (Toyo University, Japan)
Communication Robot System for Older People Who Live Alone

15.00 – Toshiharu Igarashi (The University of Tokyo, Japan)
Socially assistive robots influence for elderly with cognitive impairment living in nursing facilities: Micro observation and analysis

15.15 - Davide Ghiglino (Italian Institute of Technology, Italy)
Robot-assistive joint attention training in autism spectrum disorders

Room C – Scientific programme

AAC/1

Session Chair:
Silvio Pagliara (Ausilioteca Meditteranea)

14.30 - Francesco Carbone (Università degli Studi di Napoli Federico II, Italy)
Development of an AAC system for a student with speech impairment and spastic quadriplegia

14.45 - Ikushi Yoda (National Institute of Advanced Industrial Science and Technology, Japan)
Augmentative and Alternative Gesture Interface (AAGI): Multi Modular Gesture Interface for People with Severe Motor Dysfunction

15.00 – Rolf Black (University of Dundee, UK)
Presentation Matters: A Design Study of Different Keyboard Layouts to Investigate the Use of Prediction for AAC

15.15 Tetsuya Hirotomi (Shimane University, Japan)
Communication partners' perspective on the use of an AAC application oriented to just-in-time language acquisition

Room D – Scientific programme

SPORT

Session Chair:
Valentina Fiordelmondo (AIAS Bologna)

14.30 - Kakeru Amaike (National Rehabilitation Center for Persons with Disabilities / Chiba Institute of Technology, Japan)
Designing high-efficient and easy-to-wear thermal interface for cooling of wheelchair athletes during training

14.45 - Kennya Kitagawa (National Rehabilitation Center for Persons with Disabilities, Japan)
Thermal characterization and field trial of a wearable coolant circulator for assist of thermoregulation in wheelchair athletes

15.00 - Tsubasa Uchida (NHK Science & Technology Research Laboratories, Japan)
Automatic Production System for Sports Program with Support Information

15.15 - Rumi Hiraga (Tsukuba University of Technology, Japan)
First Evaluation of Information Support of everyone by everyone for everyone TimeLine (ISeeeTL) applied to Deaf and Hard of Hearing People Watching Sport

Room E – Scientific programme

AT OUTCOME

Session Chair:
Renzo Andrich (EASTIN Network)

14.30 - Natasha Layton (ARATA, Australia)
Continuous Outcome Scaling: A Discriminative Method for Person- Centered Assistive Technology Outcomes Studies

14.45 - Maria Laura Mele (Myèsis, Italy)

Towards a Successful Match Between User and Assistive Technology: A Correlational Study on User's Satisfaction, Perceived Effectiveness, and Psychosocial Impact of an Assistive Solution

15.00 - Sajay Arthanat (University of New Hampshire, USA)
What is the pay-off? Usability and cost benefit of assistive technology at workplace

15.15 - Sabrina Weller (BIBB, Germany)
Technology's Impact on Tasks of Employees with Disabilities in Germany (2006-2017)

14.30-15.30 - Room M – Policy session

Standardisation

A report from the AAATE SIG preconference workshop followed by discussion. A session organised by the AAATE SIG on standardisation

15.30-16.00 Coffee break

16.00-17.00 Platform sessions

Room B – Platform Session 1

Angela Riccio (Fondazione Santa Lucia IRCCS - SARA-t, Italy)
Bridging the gap between research and practice: investigation of needs and characteristics of end-users, for a future inclusion of BCIs in AT-centers

Chair: Massimiliano Malavasi (AIAS Bologna, Italy)

Room C – Platform Session 2

Maddalena Coccagna (CIAS Research Centre, University of Ferrara, Italy)
Environment and people perceptions: the experience of NEVArt, Neuroestethics of the Art Vision

Chair: Lorenzo Desideri (AIAS Bologna, Italy)

Room D – Platform Session 3

Sil Aarts (Maastricht University, the Netherlands)
Ethics in future research: It's already hard enough without it

Chair: Ramon Daniels (Zuyd University of Applied Sciences, the Netherlands)

Room E – Platform Session 4

William Field (National AgrAbility Project Director, Purdue University, USA)
Development and Dissemination of Appropriate Assistive Technology for Agricultural Production Sites

Chair: Evert Jan Hoogerwerf (AIAS Bologna, Italy)

16.00-17.00 - Room L – Educational session

Augmentative and Alternative Communication for individuals with complex communication needs: learn by doing

The session will allow participants to experience Augmentative and Alternative Communication (AAC). By simulations and role play the participants will increase their knowledge in:

- the "why" of AAC interventions. In particular the importance of participation, communication opportunities and the role of communication partners;

- the "how" of AAC interventions. In particular the strategies and techniques that can be used to support communication;

- the "what" of AAC interventions by the use of low-tech and high-tech devices.

Speakers:
Elena Radici & Stefania La Rosa (International Society for Augmentative and Alternative Communication (ISAAC))

17.00-19.00 - Room B

AAATE General assembly

CONFERENCE DAY 3 (30/08/2019)

All events are in the main conference venue in Via Beniamino Andreatta 8, Bologna, unless indicated differently

09.00-11.00   Parallel session 7

Room C – Scientific programme

PLAY ROBOTICS

Session Chair:
Serenella Besio (Università degli Studi di Bergamo, Italy)

09.00 - Serenella Besio (Università degli Studi di Bergamo, Italy)
What is Play in Robotics Today?

09.15 – Andrea Bonarini (Politecnico di Milano, Italy)
Simple robots for simple play: exploiting the resources in real situations

09.30 - Luis Azevedo (ANDITEC, Portugal)
Play and Augmentative Mobility: the INMAC (INclusive Mobility for All Children) Vehicle

09.45 - Nicole Bianquin (University of Bergamo, Italy)
Mainstream traditional or robotic toys. Which of them better supports playfulness in children with disabilities?

10.00 - Rianne Jansens (Zuyd University of Applied Sciences, Research Centre for Assistive Technology in Care, the Netherlands)
Guidelines and tools on usability and accessibility of robots for play for children with disabilities: Review and proposal from the LUDI project.

10.15 - Pedro Encarnação (Universidade Católica Portuguesa, Portugal)
Taking integrated augmentative manipulation and communication assistive technologies to daily intervention practice

10.30 - Renee van den Heuvel (Zuyd University of Applied Sciences, the Netherlands)
Playing with ZORA – Robot supported therapy and education for children with severe physical disabilities

Room D – Scientific programme

COGNITIVE ACCESSIBILITY

Session Chairs:
Christian Bühler (TU Dortmund University & FTB der ESV, Germany)
Ingo Bosse (TU Dortmund, Germany)
Susanne Dirks (TU Dortmund, Germany)

09.00 - Francesco Lubrano (Links Foundation, Italy)
Gap reduce. A research & development project aiming at developing a tool for promoting quality of urban life of people with autism spectrum disorder

09.15 - Steve Lee (OpenDirective & W3C, UK)
Cognitive and Learning Disabilities work at W3C and for the Easy Reading Project.

09.30 - Nadja Zaynel (PIKSL Lab Duesseldorf, Germany)
Inclusive Participatory Evaluation and Analysis with Peer-Researchers with Cognitive Disabilities - an Innovative Approach

09.45 - Alan McCaig (Texthelp, UK)
Automated Adaptation of Content and Structure of Original Web pages

10.00 - Peter Heumader (Institut Integriert Studieren, JKU, Austria)
Adaptive User Interface Concepts Supporting People with Cognitive Disabilities

10.15 – Sandra Derbring (DART, Sahlgrenska University Hospital, Sweden)
Safety, Privacy and Ethical Considerations when Researching With People with Cognitive Disabilities

10.30 - Stefan Parker (Kompetenznetzwerk KI-I, Austria)
New Approaches to Web User Tracking

Room E – Scientific programme

DEVELOPING AT WITH END USERS

Session Chair:
Paulette Wauben-Penris (Zuyd University of Applied Sciences, the Netherlands)

09.00 - Ramon Daniels (Zuyd University of Applied Sciences, the Netherlands)
Structural cooperation between different care organizations

09.15 - Daniel Tetteroo (Eindhoven University of Technology, the Netherlands)
Designing end-user adaptable interactive rehabilitation technology

09.30 - Giuseppe Andreoni (Politecnico di Milano, Italy)
Design and implementation of a multimodal wearable systems for functional assessment in rehabilitation and work

9.45 - Romy Sels (MOBILAB & Care, Belgium)
ARTHE: Development of an upper limp Active smart weaRable orthosis for stroke THErapy

10.00 - Loek van der Heide (Zuyd University of Applied Sciences, the Netherlands)
Combine forces in further developing an innovation for incontinence care

10.15 - Ryanne Lemmens (PXL University College of Applied Sciences and Arts, Belgium)
Stay@home with dementia: Companies, healthcare- and knowledge institutions challenged for user-centered design

10.30 - Erwin de Vlugt (The Hague University of Applied Sciences, the Netherlands)
Making black swans free as a bird: freedom, safety and courage in psychogeriatric care

10.45 - Elisabetta Biasin (Centre for IT & IP Law (CiTiP), KU Leuven, Belgium)
'Sharing is caring': what are the main legal and ethical challenges to be looked at when co-designing DIY assistive technologies?

Room F – Scientific programme

AT2030

Session Chair:
Catherine Holloway (UCL Global Disability Innovation Hub, UK)

09.00 - Alison End Fineberg (ATscale – the Global Partnership for Assistive Technology, Switzerland)
ATscale – meeting the global need for AT through an innovative cross-sector partnership

09.15 - Margaret Savage (Clinton Health Access Initiative, USA)
Increasing access to assistive technology by addressing the market-barriers: A market-shaping approach for wheelchairs

09.30 - Catherine Holloway (UCL Global Disability Innovation Hub, UK)
AT2030 – exploring novel approaches to addressing the global need for AT

09.45 - Giulia Barbareschi (University College London Interaction Centre, UK)
Innovate Now: Creating an Assistive Technology Innovation Ecosystem in Nairobi

10.00 - Giulia Barbareschi (University College London Interaction Centre, UK)
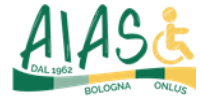**Moulding a New Prosthetic Service Delivery System with the Amparo Confidence Socket**

10.15 - Tone Oderud (SINTEF, Norway)
Developing tablet audiometry for screening children's hearing in Tanzania

10.30 - Graziella Van den Bergh (University of Bergen & Western Norway University of Applied Sciences, Norway)

Assistive technology services for children with disabilities and inclusive education in Tanzania: the need for intersectoral coordination

10.45 - Djenana Jalovcic (Western Norway University of Applied Sciences, Norway)
Comprehensive approach to assistive technology in low-income country: A case study of CRP Bangladesh

09.00-11.00 - Room L – Educational session

Developing Practice Guidelines in Assistive Technology Assessment and Outcome Measures Using the MPT Model.

Assistive Technology (AT) can be an effective tool to support children and adults with disabilities; however, there remains a high abandonment rate in the use of these technologies that leads to ineffective implementation of AT, poor use of funding provided for AT, and more importantly, loss of a person's dreams and opportunities for participation that can lead to improved quality of life. This session will address the need to develop practice guidelines that address three key principles: Assessment, Implementation, and Follow-up outcomes that are critical for successful match of technology to consumer. Participants will engage in discussion on strategies to develop an effective global approach to matching consumers and AT to support independence and functional participation.

Speakers:
Marcia Scherer (Institute for Matching Person & Technology, Inc., USA)
Susan Zapf (Rocky Mountain University of Health Professions, USA)

09.00-11.00 - Room B – Policy session

Challenges in implementing IoT based person-centred services

This session is organised by the ProACT consortium

Part 1. IoT based applications and services: technologies, (big) data treatment and ethical issues

Chair: Massimiliano Malavasi (AIAS Bologna onlus)

An increasing amount of institutions responsible for welfare, as well as public and private service providers, look at opportunities offered by the Internet of Things (IoT) to gather data of clients, basically to anticipate their needs, prevent critical events and increase their autonomy and safety; in other words to better remain in contact with clients and provide them with services that are more effective and more efficient.
In this first part of the session we will look at some of the most relevant ethical implications of IoT based services.

Introductory talks:
Mirko Orsini - Datariver

Paolo Ciampolini - University of Parma
Panel session:

Klaus Hoeckner – (EC High level expert group on Artifical Intelligence)
Laura Lecchi (University of Bologna)
Eva Marku (Cooperativa Sole)
Andrea Monteriù – (AitAAL)
Sergio Duretti (Director Digital Welfare of Lepida ScpA)

09.00-11.00 - Room M – Policy session

Assistive Technology Best Practices and Challenges in Higher Education in Europe

This session will present and discuss best practises and challenges in Assistive Technologies in Higher Education in different European Countries including discussion about teaching methods, teaching environment (rooms, labs, etc.), e-learning, AT tools, ecc.. for student and/or professor with disability. The topic will be addressed from both the professor and the student perspectives.
The session is proposed and organized by CNUDD (The Conference of Italian University Rectors)

Session Chair:
Rabih Chattat: Rector Delegate for Disability at the University of Bologna

Speakers:
John Gilligan (Technological University of Dublin, Ireland**)**

Klaus Miesenberger (Institut Integriert Studieren, JKU, Austria)

Dominique Archambault (University Paris 8, France)

Luca Fanucci (University of Pisa, Italy)

Followed by a **round table discussion** moderated by **Alberto Arenghi:** Rector Delegate for Disability at the University of Brescia

11.00-11.30   Coffee break

11.30-13.00   Parallel session 8

Room C – Scientific programme

ACCESSIBILITY

Session Chair:
Klaus Miesenberger (Institut Integriert Studieren, JKU, Austria)

11.30 - Vivienne Conway (Web Key IT Pty Ltd, Australia)
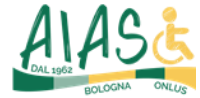**Accessibility equals Innovation**

11.45 - Valentín Salinas López (JKU, Austria)
Complex PDF remediation for accessibility: review of current methodologies.

12.00 - Prajaks Jitngernmadan (Burapha University, BUU, Thailand)
Holistic Evaluation Method and Tools for Local Government Websites, Case Study: EEC, Thailand

12.15 – Nelson Rocha (University of Aveiro, Portugal)
Usability assessment of an Accessible Voting System – a mixed method study

12.30 – Neha Jadhav (IIT Delhi, India)
Challenges in Indoor Navigation and Accessibility

12.45 - Smith, R. O. (University of Wisconsin-Milwaukee, USA)
AccessTools and AccessPlace Apps as Key Ingredients of a Building Accessibility Information System for Community Participation

Room D – Scientific programme

AT in REHABILITATION

Session Chair:
Dominique Archambault (Université Paris 8, France)

11.30 - David Hobbs (Flinders University, College of Science and Engineering, Australia)
A Custom Serious Games System with Forced-Bimanual Use can Improve Upper Limb Function for Children with Cerebral Palsy – Results from a Randomised Controlled Trial

11.45 - Tulio Maximo (The Hong Kong Polytechnic University)
CIRANDA, a floor seat positioning system and social enterprise

12.00 - Cecilia Sik Lanyi (University of Pannonia, Hungary)
Developing an android game for restoring the motor functions of fingers

12.15 – Claude Vincent (Université Laval, Canada)
Preferred" light color in home lighting interventions for people with age-related macular degeneration (ARDM)

12.30 - Cecilia Sik Lanyi (University of Pannonia, Hungary)
Mobile health game development to motivate walking for hematopoietic stem cell transplant patients

12.45 - Alexandra Saad (University of Haifa, Israel)
Experience level and Usability evaluation while using "TATOO", a touch screen tool for assessing children and clinicians

Room E – Scientific programme

AT OUTCOME/2

Session Chair:
Lorenzo Desideri (AIAS Bologna, Italy)

11.30 - Claudia Salatino (Fondazione Don Carlo Gnocchi ONLUS, Italy)
Assistive technology outcome measures: a review of recent literature

11.45 - Turið Jacobsen (Økistænastan í Sandoyar Sýslu, Faroe Islands)
Outcome of provision of "uncomplicated" assistive devices to older people in the Faroe Islands – an IPPA pretest-posttest study

12.00 - Emma Friesen (Raz Design Inc, Canada)
Developing an administration manual for the eMAST: a case study

12.15 - Susan Zapf (Rocky Mountain University of Health Professions, USA)
Cross-Walking the Matching Assistive Technology to Child Assessment to the ICF Model

12.30 - Riccardo Magni (COAT, Italy)
Translation and preliminary validation of the Italian version of the Family Impact of Assistive Technology Scale for Augmentative and Alternative Communication (FIATS-AAC.it)

Room F – Scientific programme

AAL, MONITORING and AGING

Session Chair:
Peter Cudd (University of Sheffield, UK)

11.30 - Ines Maria Simbrig (Eurac Research, Italy)
Evaluation of an assistive technologies bundle by informal carers of older adults. Results from a pilot trial in Austria and Italy

11.45 - Katsuhiro Manabe (Teikyo University of Science, Japan)
Evaluation of daytime activities at home for elderly hemiplegic patients and development of bed with standing up function to prevent disuse syndrome

12.00 - Sara Comai (Politecnico di Milano, Italy)
Detecting Social Interaction in a Smart Environment

12.15 - Phil Joddrell (The University of Sheffield, UK)
Continuous ambient in-home walking speed monitoring in frail older adults: Results of a feasibility study

12.30 - Margriet Pol (Hogeschool van Amsterdam, the Netherlands)
Effectiveness of sensor monitoring in a rehabilitation program for older patients after hip fracture: a three-arm stepped wedge randomized trial

12.45 - Alessandra Costanzo (University of Bologna, Italy)
HABITAT: a New Generation of Ambient Assisted Living

APPROPRIATE WHEELCHAIRS: A GLOBAL CHALLENGE

Session Chair:
Rosemary Joan Gowran (University of Limerick, Ireland)

11.30 - Rosemary Joan Gowran (University of Limerick, Ireland)
Wheelchair stakeholders meeting 2018 - developing a global wheelchair sector report with priority actions toward sustainable wheelchair provision: appropriate wheelchairs, a global challenge

11.45 - Rosemary Joan Gowran (University of Limerick, Ireland)
Personal, public, political discourse illuminating context specific experiences enabling and depriving individuals as wheelchair users in the republic of ireland: appropriate wheelchairs a global challenge

12.00 - Mary Goldberg (University of Pittsburgh, USA)
Global Wheelchair Service Provision Capacity Building: An Online Mentoring Feasibility Study

12.15 - Rosemary Joan Gowran (University of Limerick, Ireland)
A cross-sectional survey investigating wheelchair skills training in Ireland: appropriate wheelchairs a global challenge

12.30 - Rosemary Joan Gowran (University of Limerick, Ireland)
Improving Global Wheelchair Product Quality

12.45 - Shoichiro Fujisawa (Tokushima Bunri University, Japan)
On Tire Pressure and Comfort of Manual Attendant-Controlled Wheelchairs

AAC/2

Session Chair:
Sarah Gavra Boland (Saint John of God Community Servies clg, Liffey Services, Ireland)

11.30 - Benjamin Klaus (FH Technikum Wien, Austria)
AsTeRICS Grid – a flexible web-based application for alternative communication (AAC), environmental- and computer control

11.45 - Evgeniya Hristova (ASSIST - Assistive Technologies Foundation, Bulgaria)
Attitudes and Usage of AAC in Bulgaria: A Survey among Special Education Teachers

12.00 - Tsutomu Kimura (National Institute of Technology, Toyota College, Japan)
Sign language recognition using machine learning by a new linguistic framework

12.15 - Reinhard Koutny (Institut Integriert Studieren, JKU, Austria)
Access to Non-Verbal Aspects of Group Conversations for Blind Persons

12.30 - James Northridge (University College Cork, Ireland)
Selecting AAC apps for effective communication in a mainstream classroom setting. A new framework of where to start.

11.30-13.00 - Room B – Policy session

Challenges in implementing IoT based person-centred services

This session is organised by the ProACT consortium

Part 2. Removing barriers to upscaling and transfer of digital based integrated care platforms

Chair: Evert-Jan Hoogerwerf - AIAS Bologna onlus/ProACT Consortium)

Notwithstanding the existence of significant experiences in supporting persons with disabilities and older adults with IoT based technologies, many of these find difficulties in surviving experimental phase, scaling up or in being transferred to other contexts.

In this second part of the session we will look at the most relevant barriers to the successful transfer of digital solutions for integrated care from one context to another and how these barriers can be addressed by applying more universal and user centred design principles.

Keynote:
Maite Ferrando – (AAATE/ProACT Consortium)
Transferability of digital solutions for integrated care (ProAct qualitative research)

Experiences:
Lisa Cesario and Arianna Gherardini – (WeCareMore, AIAS Bologna onlus)
Giovanna Camorali (IBM Italia S.p.A.)

Panel:
Lorenzo Chiari(University of Bologna)
Marco Franchini – (President of ASP Terre di Castelli)
Irene Bruno – (ASP Città di Bologna)

13.00-14.00   Closing ceremony

With Katerina Mavrou and Georgios Kouroupetroglou.
Best paper award

PROGRAMME INNOVATION AREA – ROOM P

Day 1 28/08/2019	11.35-12.00	Texthelp *Neill, R.* Browsealoud software is an innovative toolbar, which adds text-to-speech, translation, magnification and screen-masking to websites. The toolbar makes websites more accessible, reducing barriers between online content and website audiences.
	12.05-12.30	Dreamwaves *Furtado, H.* A navigation and orientation solution to assist blind and visually impaired people in overcoming their mobility challenges. The key aspect of the solution is that people can understand where they need to walk to, in the most natural and intuitive way.
	12.35-13.00	Flexmotiv Technologies Pvt Ltd *Suresh Ambalapuzha, A.* Flexmo Crutch. A novel design (patent pending) of underarm and Elbow crutches. It is All Terrain (Tested in snow, sand dunes, slippery surfaces , rocks mud). By using specially crafted metal flexures, the FlexCrutch substantially improves the stability and mobility of a patient while keeping the cost low.
	13.35-14.00	Ergotek s.r.l. *Tedesco, S. & Monticelli, P.* A smart chair was developed in order to assess the posture of a seated person in real-time and detect the intention to get up. This ergonomic chair was properly designed for this project's target population (i.e., the elderly). It includes pressure sensors, a computation module, and a communication module.
	14.05-14.30	Liquidweb srl *Fedele, P.* BrainControl AAC is an augmentative alternative communicator designed also for LIS (Locked-in state) and Complete-LIS patients). It is a Brain-Computer Interface based on a proprietary framework of Artificial Intelligence for human-machine interaction.
	14.35-15.00	AbleNet Inc. *Thompson, P.* Discussion of accessibility to an iOS device through either switch control or mouse control, how to set up a device for either and demonstration of head mouse control of the iOS device.
	15.05-15.30	AIAS Bologna onlus

		Cesario, L. and Lepore, C. WeCareMore: The product is a completely functional prototype, that reuses mainstream market devices and an existent opensource framework to build a new type of customised health and social care service.
	15.35-16.00	ETH Zurich *Gantenbein, J.* MiAssiSt: an open source, low-cost, wheelchair-mountable assistive device to support elbow flexion and extension for users with reduced upper limb muscle strength.
	16.00-16.30	**Opportunity to meet the presenters**
	16.35-17.00	AIST (National Institute of Advanced Industrial Science and Technology) *Yoda, I.* Augmentative and Alternative Gesture Interface (AAGI). Gesture interfaces to operate PCs for people with sever motor dysfunction who have difficulty operating a standard keyboard and mouse.
	17.05-17.30	University of Sheffield *Krumins, V.* The concept is to produce at a low cost devices that can be generated locally and individualized for the user. It embraces three products identified in the Priority Assistive Products List by WHO: walking stick, elbow crutch and walker frame.
Day 2 29/08/2019	09.00-09.30	TECHNOLOGY TRANSFER POLICY SESSION
	09.35-10.00	
	10.05-10.30	
	10.35-11.00	Ergotek s.r.l. *Tedesco, S. & Monticelli, P.* A smart chair was developed in order to assess the posture of a seated person in real-time and detect the intention to get up. This ergonomic chair was properly designed for this project's target population (i.e., the elderly). It includes pressure sensors, a computation module, and a communication module.
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	14.05-14.30	Raised Lines Foundation *Balakrishnan, M.* Tactile diagrams are the embossed representation of diagrams for people with visually impairment. An end to end mechanism for the design and production of tactile diagrams has been developed by ASSISTECH, IIT Delhi.
	14.35-15.00	AssisTech *Balakrishnan, M. & Jhadav, N.* DotBook is a feature-packed, affordable Refreshable Braille Display, designed to enable easy access to digital content for people with visual impairment. DotBook enables users to read books, create and edit word documents, browse the Internet, manage emails, connects directly to online libraries through built-in applications.
	15.05-15.30	University of Pisa *Fanucci, L.* El.Go. the Electronic Goalkeeper. a novel piece of Assistive Technology that lets a person with motor- impairments to play the role of the goalkeeper during a live non-professional football match. The main goal of the project is the improvement of the accessibility for people with disabilities to sport.
	15.35-16.00	Flexmotiv Technologies Pvt Ltd *Suresh Ambalapuzha, A.* Flexmo Crutch. A novel design (patent pending) of underarm and Elbow crutches. It is All Terrain (Tested in snow, sand dunes, slippery surfaces , rocks mud). By using specially

		crafted metal flexures, the FlexCrutch substantially improves the stability and mobility of a patient while keeping the cost low.
	16.00-16.30	UrAbility *Northridge, J.* UrAbility has developed an online course for parents of students with disabilities to learn how to use and support their children with assistive technology.
	16.30-17.00	**Opportunity to meet the presenters**
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	12.30-13.00	**Opportunity to meet the presenters**